

What is claimed is:

1. A method of making a laminated, high frequency magnetic material comprising the steps of:
  - (a) making first green tapes of a low hysteresis loss material,
  - (b) cutting the first green tapes to a given size,
  - (c) making a small stack of at least one cut first green tapes,
  - (d) making second green tapes of an insulating material,
  - (e) cutting the second green tapes to a predetermined size,
  - (f) making a big stack by alternating layers of said small stack and the cut second green tapes,
  - (g) laminating the big stack under mechanical pressure,
  - (h) burning off the binder by heating the big stack to 400 – 600 °C for up to 2 hours, and
  - (i) co-firing the big stack to obtain alternate layers of low hysteresis loss material and insulating material.
2. The method of claim 1, where step i) comprises sintering at 1000 – 1400 °C.
3. The method of claim 1, wherein step i) comprises sintering in a controlled atmosphere.
4. A method of making a composite, high frequency magnetic material comprising the steps of
  - a) making magnetic plates with low hysteresis loss,
  - b) making thin insulating films,
  - c) depositing an adhesive on both sides of the insulating films,
  - d) making a stack by alternating layers of magnetic plates and insulating films, and
  - e) applying pressure and/or heat to the stack.

5. The method of claim 4, wherein step (a) comprises making low hysteresis magnetic materials in blocks and making the said magnetic plates by machining.
6. The method of claim 4, wherein step (a) comprises pressing a low hysteresis loss magnetic material in plate shapes and then firing the plate-shape material.
7. The method of claim 4, including the step of forming the magnetic plates with substantially curved surfaces.
8. A method of making a composite, high frequency magnetic material comprising the steps of:
  - a) making magnetic plates with low hysteresis loss,
  - b) depositing a small amount of an insulating material on at least one side of the magnetic plates,
  - c) stacking the magnetic plates,
  - d) applying heat and pressure to melt or soften the insulating material, and
  - e) cooling the stack to solidify the insulating material and to provide adhesion between adjacent said magnetic plates.
9. The method of claim 8, wherein step (b) comprises depositing the insulating material by a thick film process.
10. The method of claim 8, wherein step (b) comprises depositing the insulating material by a thin film deposition process.
11. The method of claim 8, wherein step (b) comprises dipping the magnetic plates in a molten or liquid insulating material.
12. The method of claim 8, wherein step (a) comprises making blocks of low hysteresis loss material and then machining the blocks to obtain said magnetic plates.

13. The method of claim 8 wherein step (a) comprises pressing a low hysteresis loss material into plate shapes before firing and then firing the plate shapes.
14. The method of claim 8, wherein the magnetic plates have substantially curved surfaces.
15. A method of making a composite, high frequency magnetic material comprising:
- a) making magnetic plates having low hysteresis loss,
  - b) making a stack of the magnetic plates with spacers separating adjacent magnetic plates,
  - c) melting an insulating material,
  - d) dipping the stack in the melted insulating material so that thin liquid layers of the insulating material are formed between the adjacent magnetic plates, and
  - e) cooling the stack to solidify the thin liquid layers.
16. The method of claim 15 wherein step (a) comprises pressing a low hysteresis loss material into plates prior to firing and then firing the plates.
17. The method of claim 15, wherein step (a) comprises machining the magnetic plates from a pre-fired block of low hysteresis loss material.